REMARKS

Responsive to the Office action mailed October 2, 2008, applicant requests entry of the foregoing amendments, consideration of the following remarks and reconsideration of the rejections set forth in said office action. Claim 17 has been amended.

The examiner indicated that a new abstract was required in that the abstract was present in the form of a foreign equivalent patent, WO2005/054171. The examiners attention is directed to the Preliminary Amendment filed with the present application. In that Preliminary Amendment, an abstract was added after the last page of the application, page 28. Applicants submit the application as amended in the Preliminary Amendment properly presented an Abstract.

Claims 4-16 were objected to under 37 CFR 1.75(c) as being in improper from because no multiple dependent claim should refer to other claims in the alternative only. Applicants draw the examiners attention to the Preliminary Amendment filed with the present application in which all multiple dependencies were remove from the claims. In addition, claim 1 was canceled and new claims 17-23 added. Applicants submit that in view of the amendments made via the Preliminary Amendment, the objection under 37 CFR 1.75(c) should be withdrawn.

Claims 1-16 were rejected under 35 USC 103(a) as being unpatentable over Hirao et al. (EP1125912 equivalent to US 6713648) in view of Dockner et al. (EP784046, equivalent to US 5817865). Applicants submit that neither Hirao et al '912 nor Dockner (sic) '865 singlely or combined render the present invention obvious.

The present invention relates to a method for manufacturing (meth)acrylic acid with a recovery yield > 98.5%.in which a gas substrate (propane and/or propylene and/or acrolein in the case of acrylic acid; isobutane and/or isobutene and/or *tert*-butyl alcohol and/or methacrolein in the case of methacrylic acid) is oxidized by a catalytic or redox method, and the (meth)acrylic acid is thereafter recovered from the hot reaction gas mixture by countercurrent absorption by a hydrophobic organic solvent in a

countercurrent stripper column followed by recover of high purioty (meth)acrylic acid in a rectification column. The method of the present invention comprises only three steps and achieves the recovery without dilution of the uncondensed waste gas by an external gas added in the rectification step. The main method for synthesizing acrylic acid uses a reaction of catalytic oxidation of propylene with a mixture containing oxygen. The second stage of manufacture comprises a stripping step for recovering the acrylic acid from the hot gas mixture, previously cooled to a temperature of 150-200°C, by introducing the gas at the bottom of an absorption column where it meets a countercurrent flow of solvent introduced at the top of the column, and inside which cooling, condensation, absorption and rectification processes take place simultaneously. The third stage of the present invention comprises a desorption step using a rectification column that is distinguished from the distillation columns of the prior art by the fact that it operates with a top feed, without reflux, and by particular operating conditions of this column, such as its distillate rate relative to the flow rate of (meth)acrylic acid introduced into the absorption column. The use of a rectification column without reflux, supplied at the top, has as one advantage over a rectification column with reflux, of significantly reducing the formation of polymers at the top of the column. The rectification column of the present invention is also operated without the addition of any external inert gas. See page 10, lines 29-34 and throughout the specification. Operation of the rectification column without external inert gas feed has the advantage of reducing the size of the purification equipment and facilitating the recycling of the uncondensed gases at the top of the absorption column to the reaction step.

Hirao '912 discloses a method for purifying acrylic acid in which employs a "standard" distillation column as the third step. The distillation column of Hirao '912 employees a condenser and reflux and the feed point of the acrylic acid mixture is not the top of the column. Thus, the method of Hirao '912 does not offer the advantages of the method of the present invention.

Dockner et al. (US 5,817,865 to Machhammer et al., referred to herein as Dockner '865) discloses a process for the preparation of acrylic acid in which the third step comprises a stripping column where an external inert gas is added countercurrent to the acrylic acid/solvent stream feed to the top of the column. In the method disclosed by Dockner '865, the feed of an external, inert gas is required. The method of the present invention does not employ such a gas stream and thus avoids issues such as increased equipment size required by this added gas stream and the presence of the inert gas in the

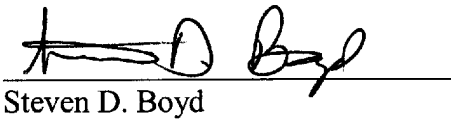
overhead that can be recycled to the reaction step.

Applicants submit that neither Hirao '912 nor Dockner '865 render obvious the present invention. Furthermore, applicants submit that a combination of Hirao '912 and Dockner '865 fails to render obvious the present invention. Neither reference discloses the operation of the rectification column in a (meth)acrylic acid production scheme where the solvent/(meth)acrylic acid is feed at the top and which is operated without reflux and without the feed of an external inert gas. Thus, the combination fails to render obvious the method of the present invention which is shown by the examples to provide enhanced (meth)acrylic acid production with "simplified" equipment and operational steps.

In view of the foregoing remarks, applicant respectfully submits that claims 2-23 of the present application are in condition for allowance and prompt favorable action is solicited.

Respectfully submitted,

Date: December 23, 2008



Steven D. Boyd
Attorney of Record
Reg. No. 31,000
(215) 419-5270
Customer Number 31684